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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/595,803	05/12/2006	Mark Andrew Rowen	ROWE0101PUSA	6967
22045	7590	11/06/2009		
BROOKS KUSHMAN P.C. 1000 TOWN CENTER TWENTY-SECOND FLOOR SOUTHFIELD, MI 48075				
EXAMINER				
FRANK, NOAH S				
ART UNIT		PAPER NUMBER		
1796				
MAIL DATE		DELIVERY MODE		
11/06/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/595,803

Applicant(s)

ROWEN, MARK ANDREW

Examiner

NOAH FRANK

Art Unit

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 August 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 11-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 11-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
- _____ Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
- _____ Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-9, 11-14 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claims 1 and 5 recite the limitation, "being free of isocyanate". There is no support for this in the specification.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Hovestadt et al. (US 5,453,460).

Considering Claims 1-2: Hovestadt et al. teaches a process for reusing the overspray obtained when spraying water dilutable two-component polyurethane coating

compositions by collecting the overspray, reacting the overspray with compounds that are more reactive with isocyanate groups than both water and the compounds containing isocyanate reactive groups, and using the solution or dispersion in a coating composition (Abs). The coating residue can be reconcentrated (extracted) by low pressure evaporation (2:35-45). The recovered overspray can be used in two-component polyurethane coating compositions, with addition of a polyisocyanate as hardener (7:35-40). The dispersion was applied as a two-component polyurethane coating composition (7:35-40). Hovestadt teaches that the coating compositions are made before it has become completely unusable due to the gradually progressing cross-linking reaction (1:60-65), which implies that the coating is substantially free of cross-linking on its own and substantially free of large amounts of gelled paint. Additionally, it must be viscous in order to be applied as a coating.

With regards to the limitation that the paint waste stream be resultant from spray equipment cleaning with wash solvent, as the claim is drawn to a product, the process is irrelevant, so long as it results in the same claimed compound. Furthermore, no isocyanate is present at the point at which the overspray has been reacted with amine.

Considering Claim 3: Hovestadt et al. teaches the isocyanate being based on hexamethylene diisocyanate (7:1-5).

Considering Claim 11: Hovestadt et al. teaches adjusting the spray viscosity of the coating by adding water (diluting) (Abs).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 4 rejected under 35 U.S.C. 103(a) as being unpatentable over Hovestadt et al. (US 5,453,460), as applied to claims 1-3 above, and further in view of Moriarty et al. (US 6,692,670), as evidenced by Rubinate 1840 data sheet.

Considering Claim 4: Hovestadt et al. teaches the basic claimed coating as set forth above.

Hovestadt does not teach the claimed MDI. However, Moriarty et al. teaches polymeric MDI comprising less than 48% diisocyanate (MDI) (3:30-35), specifically Rubinate 1840 (3:15-17). Rubinate 1840, as shown from the Rubinate 1840 data sheet, is a 50:50 mix of 4,4'-diphenylmethane diisocyanate (CAS 101-68-8) and polymeric MDI (CAS 9016-87-9). Hovestadt and Moriarty are combinable because they are from the same field of endeavor, namely isocyanate binders. At the time of the invention a person of ordinary skill in the art would have found it obvious to have used the polymeric MDI, as taught by Moriarty, in the invention of Hovestadt, as an equivalent alternative isocyanate.

Claims 5-9 and 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hovestadt et al. (US 5,453,460) in view of Patzelt et al. (US 5,766,370) and applicant's admission of prior art.

Considering Claims 5 and 14: Hovestadt et al. teaches a process for reusing the overspray obtained when spraying water dilutable two-component polyurethane coating compositions by collecting the overspray, reacting the overspray with compounds that are more reactive with isocyanate groups than both water and the compounds containing isocyanate reactive groups, and using the solution or dispersion in a coating composition (Abs). The coating residue can be reconcentrated (extracted) by low pressure evaporation (2:35-45). The recovered overspray can be diluted (8:25-30) and used in two-component polyurethane coating compositions, with addition of a polyisocyanate as hardener (reactive to epoxide) (7:35-40). The dispersion was applied as a two-component polyurethane coating composition (7:35-40). Hovestadt teaches that the coating compositions are made before it has become completely unusable due to the gradually progressing cross-linking reaction (1:60-65), which implies that the coating is substantially free of cross-linking on its own and substantially free of large amounts of gelled paint. Additionally, it must be viscous in order to be applied as a coating and no isocyanate is present at the point at which the overspray has been reacted with amine.

Hovestadt does not teach the paint waste stream being resultant from spray equipment cleaning with wash solvent. However, applicant has admitted that, "Each trade typically uses a wash solvent to clean equipment" (¶0015), and that, "When spray

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equipment is cleaned of paint with wash solvents, a waste stream consisting of paint and wash solvent is created" (§10002). At the time of the invention a person of ordinary skill in the art would have found it obvious to have used a waste stream resultant from spray equipment cleaning with wash solvent, in the invention of Hovestadt, as an equivalent alternative waste stream. Furthermore, the limitation "resultant from spray cleaning equipment" is a product-by-process limitation within the confines of a larger process claim and therefore the prior art need not teach the claimed process, just the product.

Hovestadt does not teach placing the paint waste stream in a still, separating the solvent, and then extracting the paint residue. However, Patzelt et al. teaches a paint overspray treatment by feeding a spent emulsion into a reaction vessel, the reaction vessel operating under a vacuum and at a temperature sufficient to generate a volatilized organic solvent component (still), and removing residual material remaining in the reaction vessel after volatilizing the organic solvent (4:15-35). Hovestadt and Patzelt are analogous art because they are from the same field of endeavor, namely paint overspray recovery. At the time of the invention a person of ordinary skill in the art would have found it obvious to have extracted the paint residue, as taught by Patzelt, in the invention of Hovestadt, in order to efficiently remove excess solvent from the paint residue.

Considering Claims 6-7: Hovestadt et al. teaches reacting the isocyanate in an equivalent (stoichiometric) amount to hydroxyl groups (7:55-60).

Considering Claims 8-9 and 13: Hovestadt does not teach purifying the residue according to specific gravity before combining with hardening agents and pigments. However, applicant has admitted that it is well known in the art that upon standing, paints will settle out with the heavy pigments falling to the bottom and the clear resin solution sitting on top and that this process can be accelerated using an industrial decanter or centrifuge (high speed rotation) (4:15-25 of instant specification). At the time of the invention a person of ordinary skill in the art would have found it obvious to have removed pigments according to specific gravity, as taught by applicant, followed by addition of the curing agent and new pigments, in order to make a coating of a different color, thereby adapting the claimed method to multiple scenarios.

Claim 12 rejected under 35 U.S.C. 103(a) as being unpatentable over Hovestadt et al. (US 5,453,460), as applied to claim 1 above.

Considering Claim 12: Hovestadt et al. teaches the basic claimed process as set forth above. In addition, Hovestadt et al. teaches adjusting the spray viscosity of the coating by adding water (diluting) (Abs).

Hovestadt does not teach the amount of thinning solvent used. However, the experimental modification of this prior art in order to ascertain optimum operating conditions fails to render applicants' claims patentable in the absence of unexpected results. MPEP 2144.05 The amount of diluent can be adjusted to obtain a coating of the desired viscosity.

Response to Arguments

Applicant's arguments filed 8/6/09 have been fully considered but they are not persuasive.

In response to applicant's arguments that Hovestadt fails to teach the paint waste stream being free from isocyanate, as the waste is reacted with an amine, there will be no free isocyanate groups present.

In response to applicant's arguments regarding claim 4, they have been substantially responded to above.

In response to applicant's arguments regarding claims 5-7 and 14, the waste stream will be free of isocyanate as soon as it has reacted with the amine, which must be done before distillation in order to prevent unwanted crosslinking.

In response to applicant's arguments regarding claims 8-9 and 13, they have been substantially responded to above.

In response to applicant's arguments regarding claim 12, they have been substantially responded to above.

In response to applicant's arguments regarding the Examiner's arguments, the fact that Hovestadt teaches adjusting spray viscosity implies adjustment prior to addition to hardener, as once a hardener has been added, there is a limited pot life. In regards to Patzelt, the fact that he does not teach saving the residue does not mean that he teaches away from saving it. Furthermore, Patzelt teaches that the solid resin residue produced in the process of the invention can be readily and easily handled for disposal, subsequent post processing treatment, or raw material use (9:29-32), which can be

understood as recycling. *In re Wesslau* and *In re Ratti* do not apply, as Patzelt does not teach away from the claimed invention nor does the modification change the principle of operation of the prior art invention. As far as the fact that Hovestadt uses secondary amines, while the isocyanate groups may not be permanently removed, they are no longer active isocyanate groups nor present as a free isocyanate. Additionally, Hovestadt teaches "adjusting the spray viscosity of the coating compositions to a suitable spray viscosity by either removing or adding water" (Abs). Hovestadt does not teach the amount of water (solvent) to add, which is merely experimental modification, as Hovestadt clearly teaches that amount of solvent is a result-effective variable, the variable being viscosity.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NOAH FRANK whose telephone number is (571)270-3667. The examiner can normally be reached on M-F 9-5 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on 571-272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NF
10-29-09

/Marc S. Zimmer/

Primary Examiner, Art Unit 1796